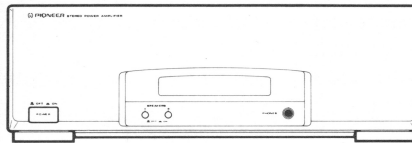


# Service Manual



ORDER NO.  
**ARP2644**

## STEREO POWER AMPLIFIER

# M-J410

# M-J310

**M - J410 AND M - J310 HAVE THE FOLLOWING :**

Type	Model		Power Requirement	Remarks
	M - J410	M - J310		
HB	○	○	AC220V - 230V, 230V - 240V (switchable)*	
HE	○	○		
HEWZIW	○	○		
SD	-	○	AC110V, 120 - 127V, 220V, 240V (switchable)	
SL	-	○	AC110V, 120V, 220V, 240V (switchable)	

\* Change the connection of the power transformer's primary wiring.

- This manual is applicable to the following: **M - J410/HB, HE and HEWZIW ; M - J310/HB, HE, HEWZIW, SD and SL.**
- For the following: **M - J410/HE, HEWZIW ; M - J310/HB, HE, HEWZIW, SD and SL, refer to page 19.**
- These products are systems components. Each of these products does not function properly when independent; to avoid malfunctions, be sure to connect it to the prescribed system component(s), otherwise damage may result.

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# 1. EXPLODED VIEWS, PACKING AND PARTS LIST

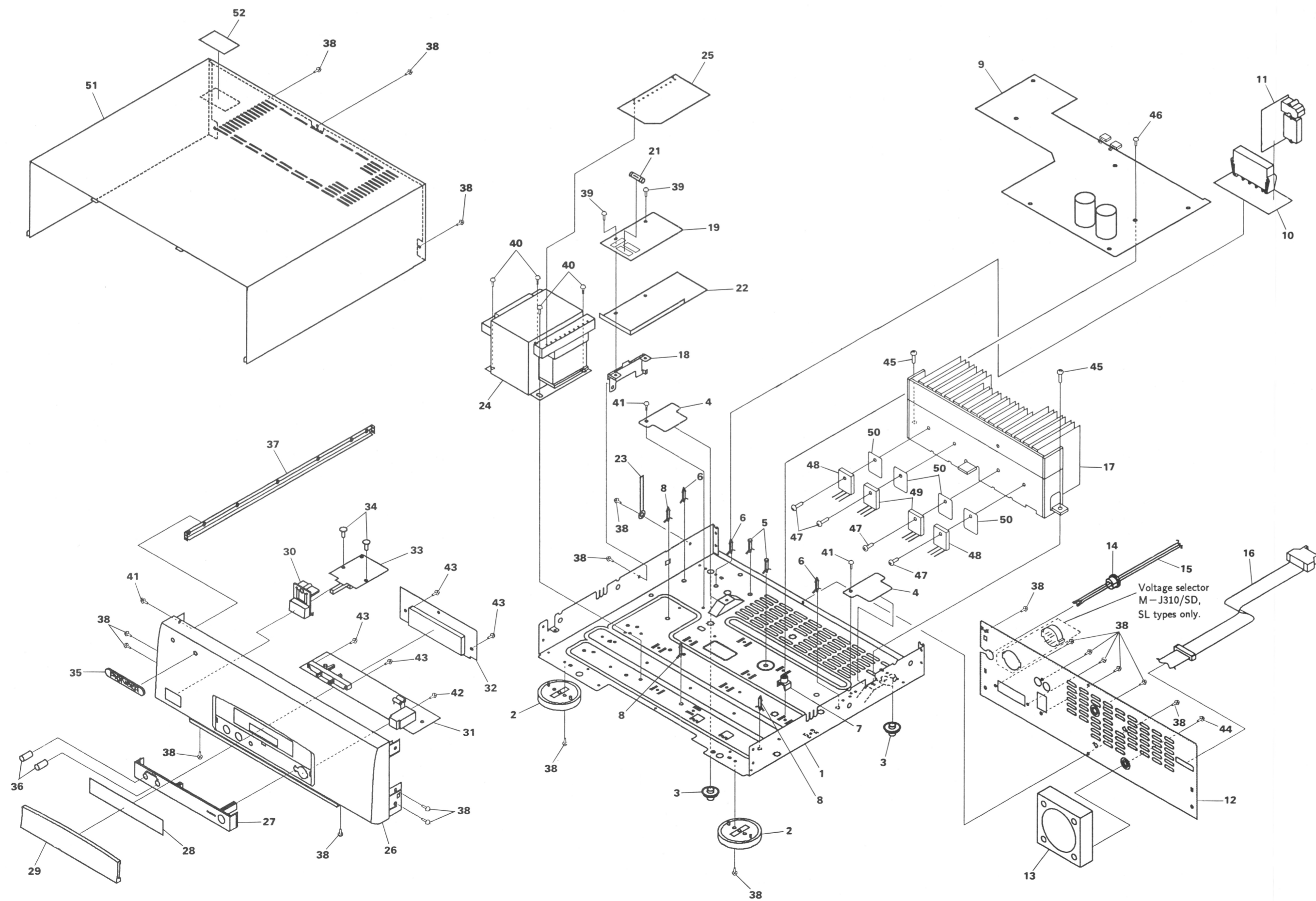
## NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

## ● Parts List

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
NSP	1	Chassis (MTL)	ANA1194	●	31	HP assembly	AWZ4413
	2	Foot assembly	RXA1448	●	32	DISPLAY assembly	AWZ4420
	3	Foot assembly(S)	AMR1937	●	33	SWITCH assembly	AWZ4983
NSP	4	Chassis cover	ANG1627		34	Nylon rivet	AEP-194
NSP	5	PCB Support	AEC1217	NSP	35	PIONEER badge	AAM1047
NSP	6	PCB Support	AEC1216	NSP	36	SP change SW	AAD2339
NSP	7	PCB Mold	AMR2115	NSP	37	Reinforced plate	ANG1635
NSP	8	PCB Support	AEC1006		38	Screw	BBZ30P080FZK
●	9	P.A assembly	AWZ4751		39	Screw	ABA1011
●	10	MAIN SP assembly	AWZ4987		40	Screw	ABA1184
●	11	REAR SP assembly	AWZ4403		41	Screw	BBZ30P060FZK
NSP	12	REAR Panel (MTL)	ANC1952		42	Screw	ABA1095
	13	Fan motor	AXM1013		43	Screw	BBZ26P080FMC
$\Delta$	14	AC cord stopper	AEC-882		44	Screw	PPZ50P100FZK
$\Delta$	15	AC power cord	ADG1067		45	Screw	ABA1054
	16	Connection cable	ADE1126		46	Screw	ABA1024
NSP	17	Heat sink	ANH1401		47	Screw	ABA1082
NSP	18	PCB Holder plate	ANG1609		48	Transistor (Q1, Q2)	MSC3281
●	19	PRIMARY assembly	AWZ4415		49	Transistor (Q3, Q4)	MSA1302
	20	.....			50	Mica sheet	AEE1014
$\Delta$	21	FUSE (FU1, T2.5A)	AEK-512		51	Bonnet	ANE1381
	22	Barrier	AEC1478	NSP	52	Caution label	AAX1679
NSP	23	Binder	AEP-215				
$\Delta$	24	Power transformer (T1)	ATS1460				
●	25	TRANS assembly	AWZ4410				
	26	Front panel (PLS)	AMB2047				
	27	Sub panel (PLS)	AAP1325				
	28	Sheet (PLS)	AAK2368				
	29	FL panel	AAK2386				
	30	Power button	AAD2338				

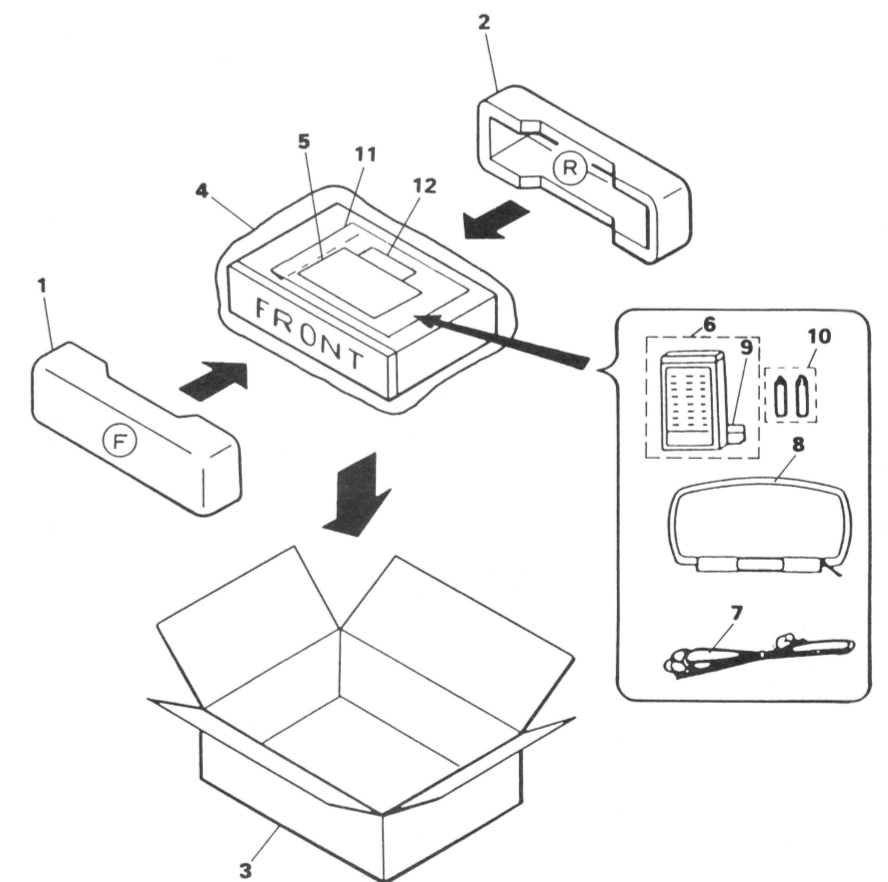
● Exploded views



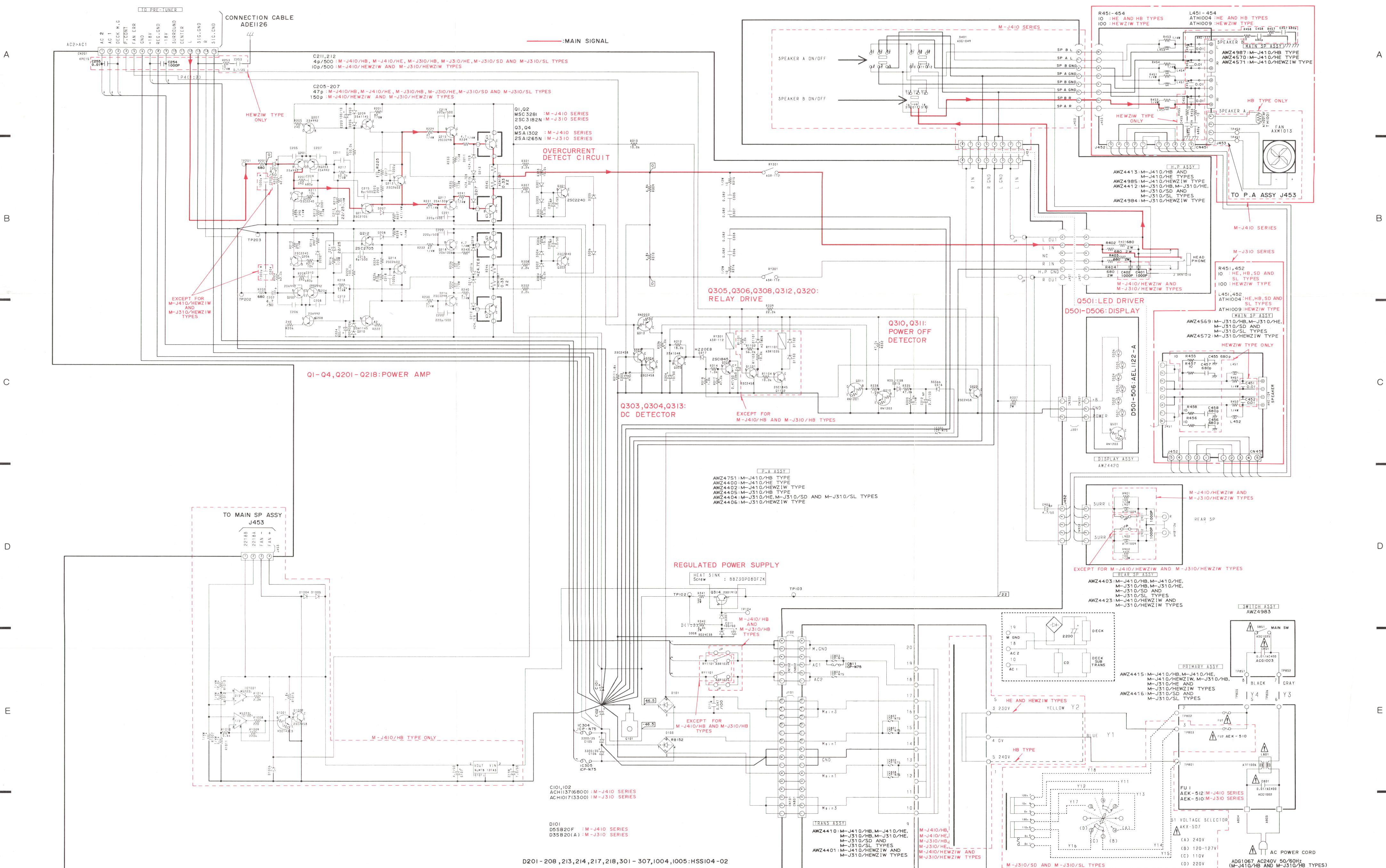
NOTE : Screws adjacent to ▼ mark on product are used for disassembly.

● Packing

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
1	Front pad	AHA1545	7	FM antenna	ADH1005
2	Rear pad	AHA1546	8	AM loop antenna assy	ATB1006
3	Packing case	AHD2488	9	Battery cover	AZN2234
4	Packing sheet	AHG1016	NSP 10	Battery (R03, AAA)	AEX-021
5	Operating instructions (English, French)	ARE1258	NSP 11	Literature bag	AHG-117
6	Remote control unit (CU-MJ005)	AXD1332	NSP 12	Warranty card	ARW-088



## 2. SCHEMATIC DIAGRAMS



Note:

(Type 1)

1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".

2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.

## 3. RESISTORS:

Unit: k $\Omega$ , M $\Omega$ , or  $\Omega$  unless otherwise noted.  
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.  
Tolerance: (F):  $\pm 1\%$ , (G):  $\pm 2\%$ , (K):  $\pm 10\%$ , (M):  $\pm 20\%$  or  $\pm 5\%$  unless otherwise noted.

## 4. CAPACITORS:

Unit: pF or  $\mu$ F unless otherwise noted.  
Ratings: capacitor ( $\mu$ F)/voltage (V) unless otherwise noted.  
Rated voltage: 50V except for electrolytic capacitors.

## 5. COILS:

Unit: mH or  $\mu$ H unless otherwise noted.

## 6. VOLTAGE AND CURRENT:

Unit: V, mA, or  $\mu$ A unless otherwise noted.  
Value in ( ) is DC voltage at rated power.  
Value in ( ) is DC current at no input signal unless otherwise noted.

## 7. OTHERS:

Unit: Signal route.  
Unit: Adjusting point.  
Unit: Measurement point.  
The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

H.P. ASSY  
S401: SPEAKER A, B ON/OFF SW

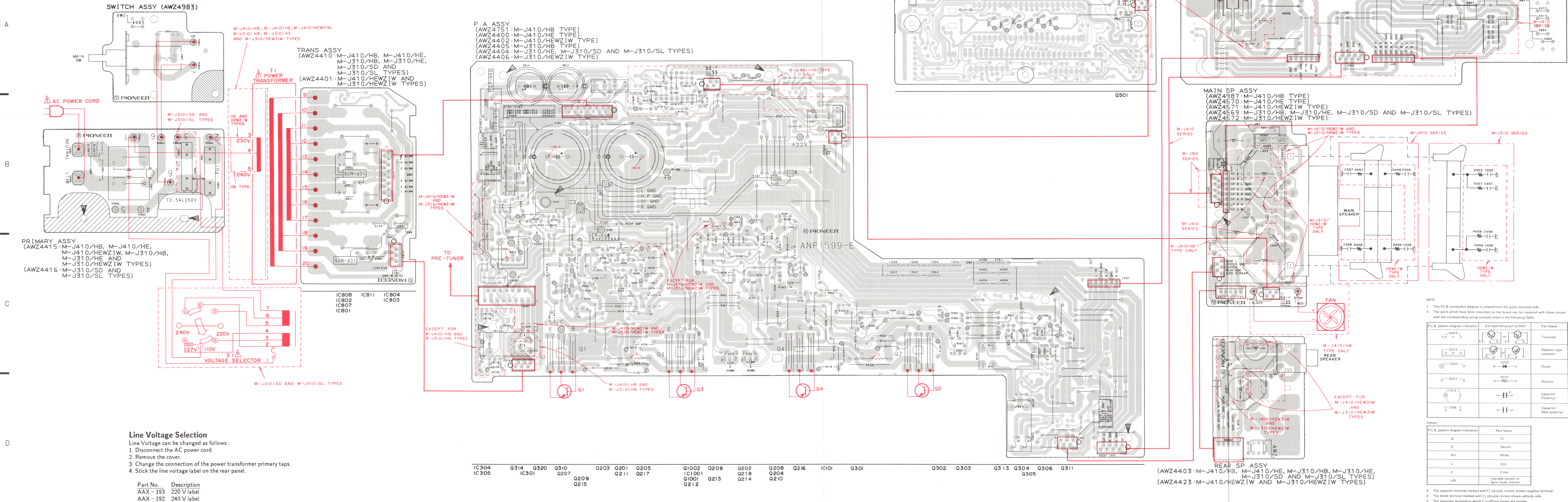
SWITCH ASSY  
S851: MAIN SW

## 8. SWITCHES (Underline indicates switch position):

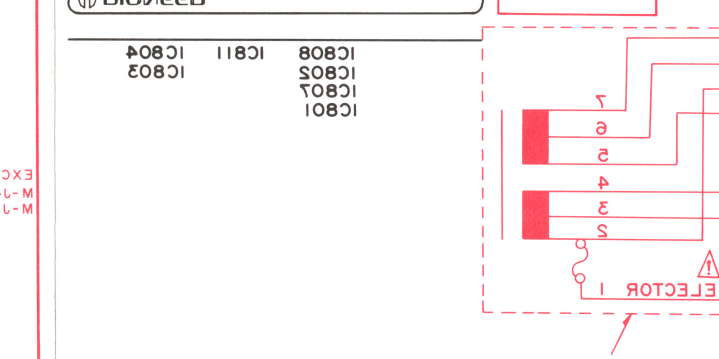
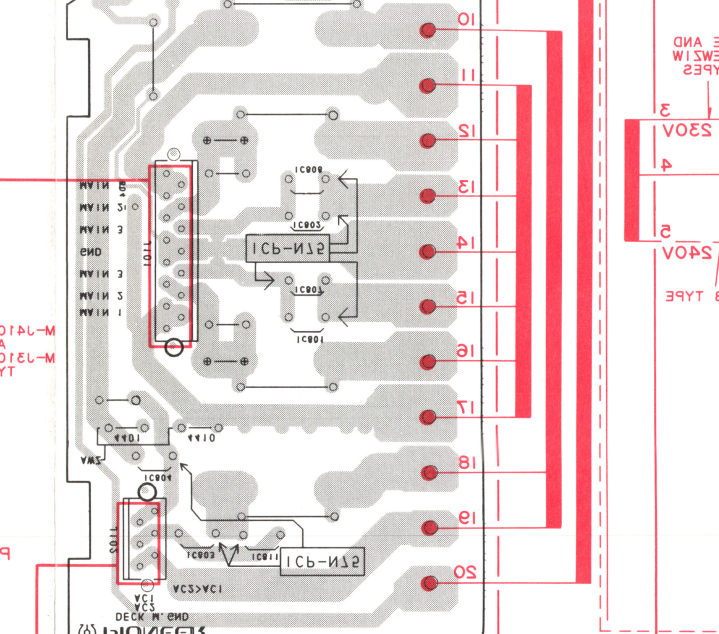
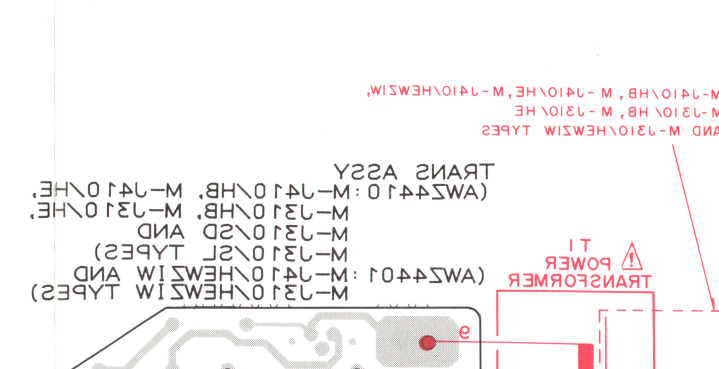
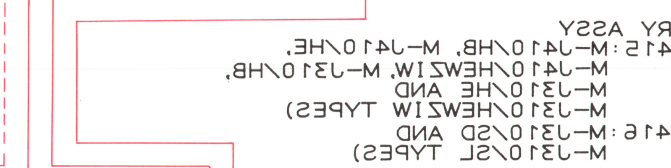
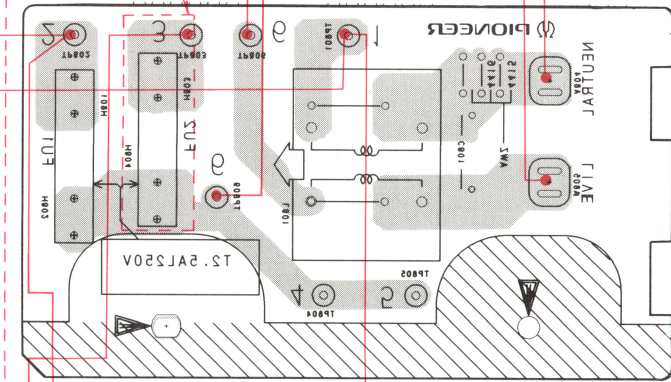
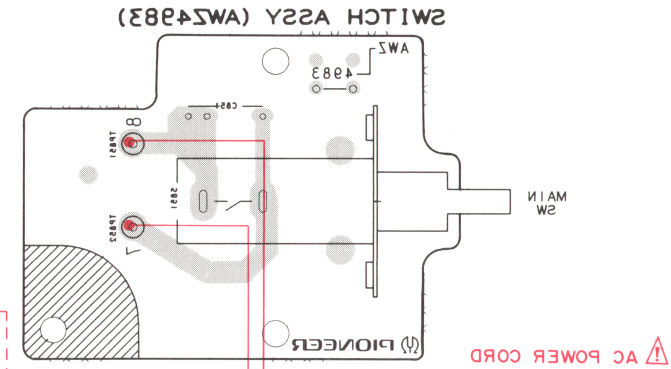
AT51460: M-J410/HE, M-J410/HE, and M-J410/HEWZIW TYPES  
AT51463: M-J310/HE, M-J310/HE, and M-J310/HEWZIW TYPES  
AT51464: M-J310/SD and M-J310/SL TYPES

ADG1067: AC240V 50/60Hz (M-J410/HE and M-J310/HE TYPES)  
ADG1068: AC220-230V 50/60Hz (M-J410/HE, M-J410/HEWZIW, M-J310/HE, M-J310/SD, M-J310/SL, and M-J310/HEWZIW TYPES)  
ADG1133: AC110-120-127/220/240V 50/60Hz (M-J310/SD TYPE)

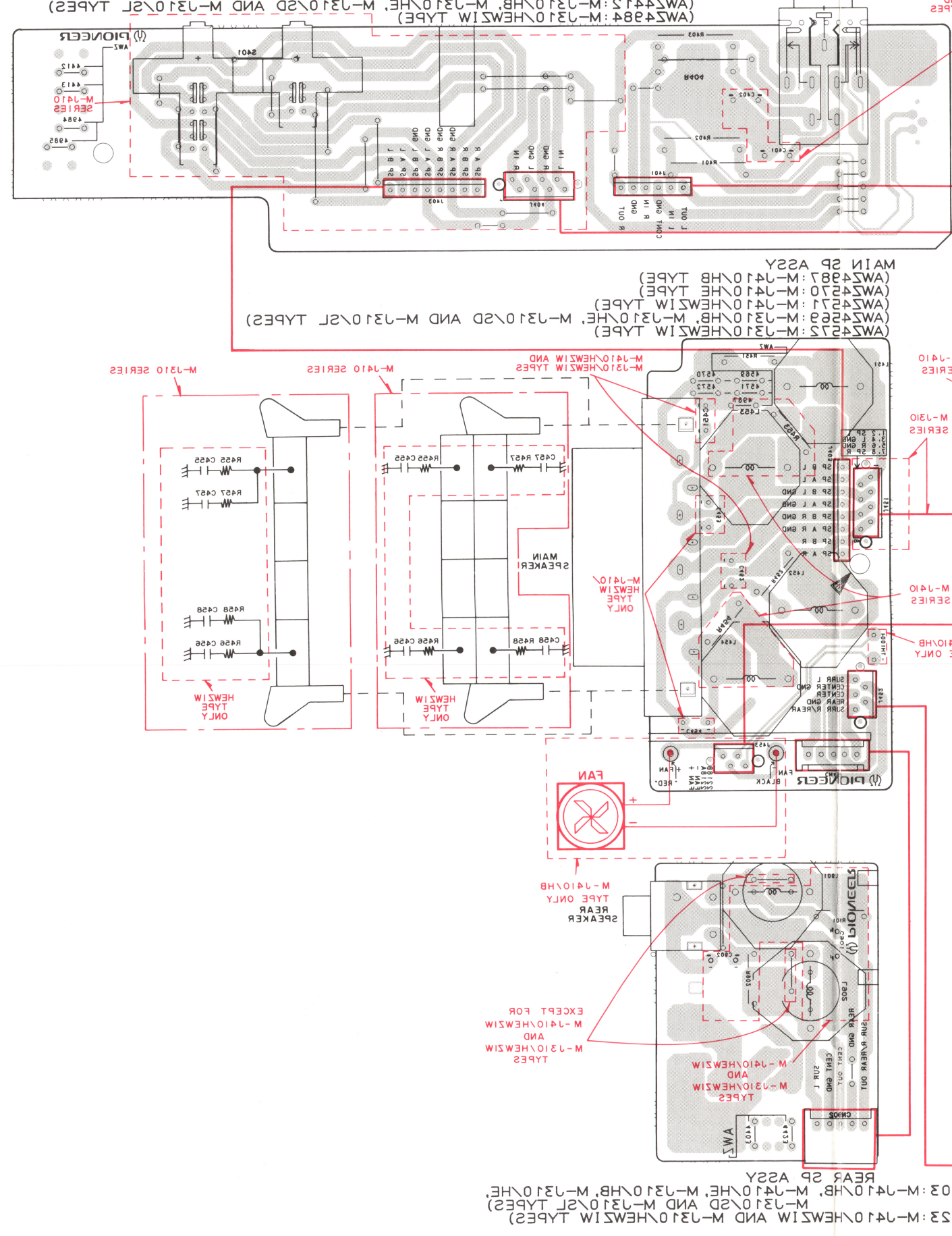
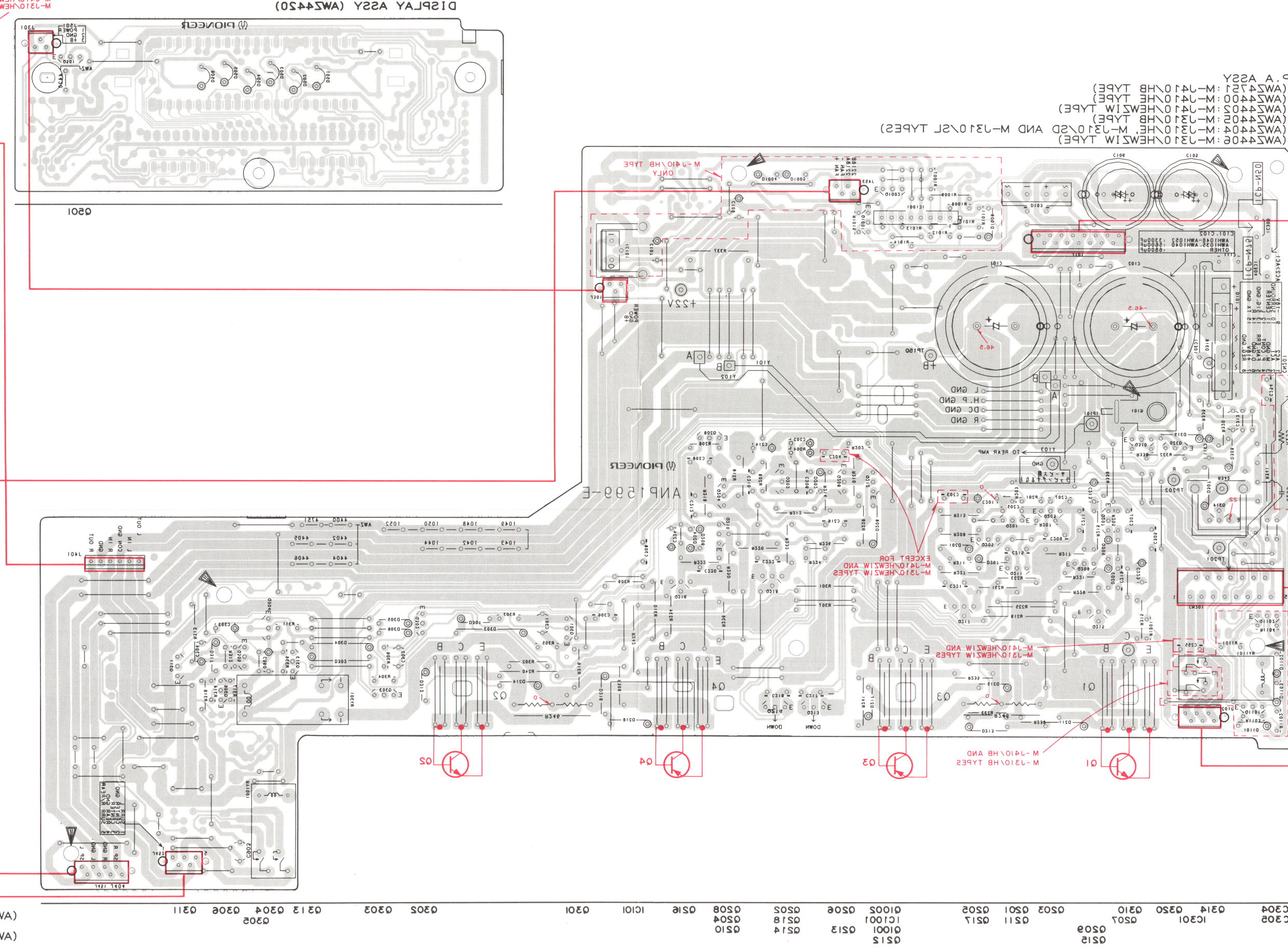
### 3. PCB CONNECTION DIAGRAMS



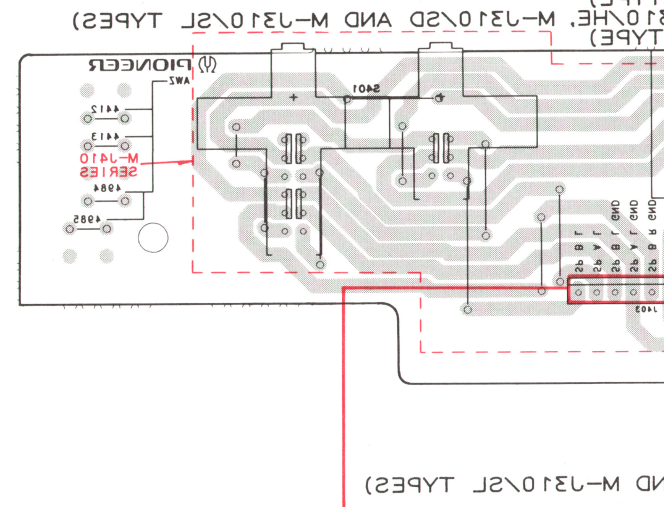
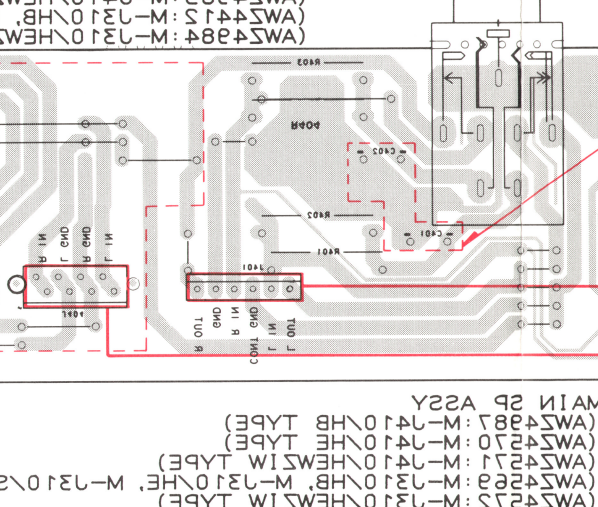
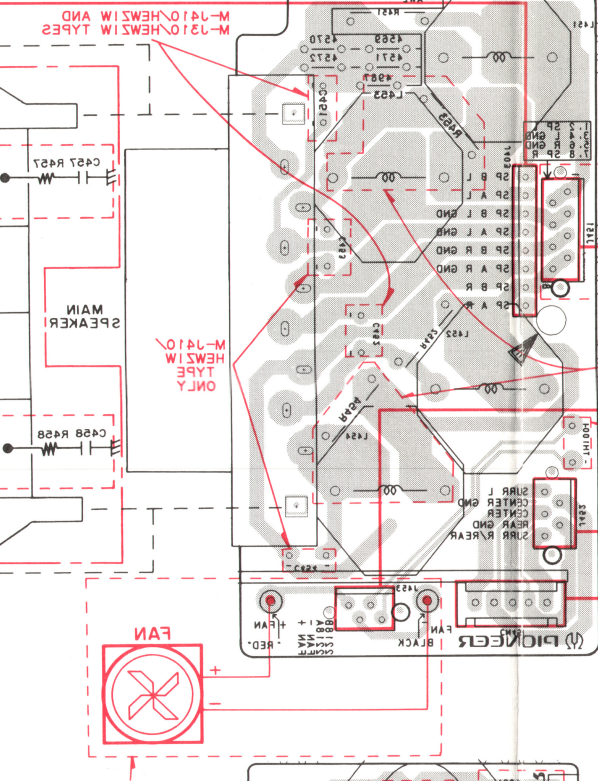
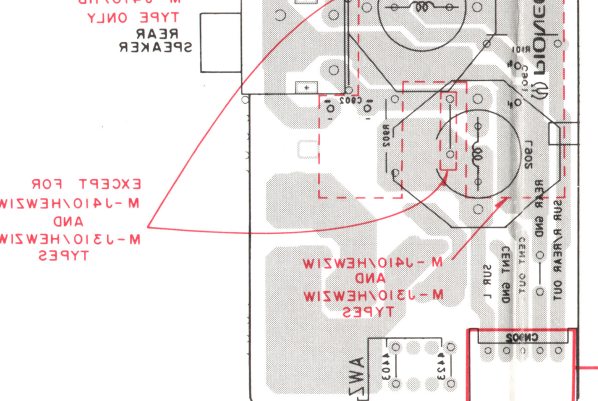
3. PCB CONNECTION DIAGRAMS



This P.C.B. connection diagram is viewed from the foil side.



REAR SP ASSY (AW54453: M-7410HEWS1W AND M-7310HEWS1W TYPES) (AW54403: M-7410HB, M-7410HE, M-7310HB, M-7310HE, M-7310SL TYPES)



## 4. PCB PARTS LIST

### NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

$560\Omega \rightarrow 56 \times 10^1 \rightarrow 561 \dots\dots\dots RD1/8PM \boxed{5} \boxed{6} \boxed{1} J$   
 $47k\Omega \rightarrow 47 \times 10^3 \rightarrow 473 \dots\dots\dots RD1/4PS \boxed{4} \boxed{7} \boxed{3} J$   
 $0.5\Omega \rightarrow 0R5 \dots\dots\dots RN2H \boxed{0} \boxed{R} \boxed{5} K$   
 $1\Omega \rightarrow 010 \dots\dots\dots RS1P \boxed{0} \boxed{1} \boxed{0} K$

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

$5.62k\Omega \rightarrow 562 \times 10^1 \rightarrow 5621 \dots\dots\dots RN1/4PC \boxed{5} \boxed{6} \boxed{2} \boxed{1} F$

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
<b>LIST OF ASSEMBLIES</b>				<b>DISPLAY ASSY</b>			
●		REAR SP ASSY	AWZ4403	<b>SEMICONDUCTORS</b>			
●		TRANS ASSY	AWZ4410	Q501		RN1203	
●		H.P ASSY	AWZ4413	D501 - D506		AEL1122	
●		PRIMARY ASSY	AWZ4415				
●		DISPLAY ASSY	AWZ4420				
●		P.A ASSY	AWZ4751	<b>P.A ASSY</b>			
●		SWITCH ASSY	AWZ4983	<b>SEMICONDUCTORS</b>			
●		MAIN SP ASSY	AWZ4987	IC301,IC304,IC305		ICP - N75	
<b>REAR SP ASSY</b>				IC1001		M5223L	
<b>OTHERS</b>				IC101		NJM7812FAS	
		PIN JACK(2P)	AKB1126	Q305		2SA1048	
<b>TRANS ASSY</b>				Q209,Q210		2SA1145	
<b>SEMICONDUCTORS</b>				Q217,Q218		2SA1306	
IC801-IC804,IC807,IC808, IC811		ICP - N75		Q201 - Q204,Q207,Q208		2SA992	
<b>H.P ASSY</b>				Q306		2SC1845	
<b>SWITCHES</b>				Q205,Q206,Q301,Q302		2SC2240	
S401		ASG1049		Q303,Q304,Q320,Q1002		2SC2458	
<b>RESISTORS</b>				Q213,Q214		2SC2603	
R401 - R404		RS2LMF681J		Q211,Q212		2SC2705	
<b>OTHERS</b>				Q215,Q216		2SC3298	
JACK		AKN1010		Q314		2SD1913	
<b>PRIMARY ASSY</b>				Q311		RN1201	
<b>COILS, FILTERS</b>				Q310		RN1203	
L801		ATF1006		Q313		RN2203	
<b>CAPACITORS</b>				Q1001		XDC143ES	
C801 (0.01/AC400V)		ACG1002		D101		D5SB20F	
				D201 - D208,D213,D214,		HSS104 - 02	
				D217,D218,D301 - D307,			
				D1004,D1005			
				D317		HZ20EB	
				D211,D212,D215,D216		HZ4.7EB	
				D103		RB152	
				D308		RD24ESB	
				D315,D1006		RD5.1ESB	
				D316		S5566	

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
<b>RELAYS</b>				<b>SWITCH ASSY</b>			
	RY301		ASR-112	<b>SWITCHES</b>			
<b>CAPACITORS</b>				△	S851		ASG1025
	C101,C102 (6800/63V)		ACH1137	<b>CAPACITORS</b>			
	C211,C212		CCCSL040C500	△	C851 (0.01/AC400V)		ACG1003
	C215,C216		CCCSL080D500	<b>MAIN SP ASSY</b>			
	C219-C222		CCCSL221K500	<b>COILS, FILTERS</b>			
	C206,C208		CCCSL470J50		L451-L454		ATH1004
	C205,C207		CCPUSL470J50	<b>RESISTORS</b>			
	C301,C302		CEANP010M50		R451-R454		RD1/4PMFL100J
	C312		CEANP2R2M100	<b>OTHERS</b>			
	C903		CEANP4R7M50		TH1001	THERMISTOR	NTH2218F
	C109		CEAS010M50			SPEAKER TERMINAL 8-P	AKE-111
	C304		CEAS100M50				
	C223,C224		CEAS101M10				
	C213,C214		CEAS220M25				
	C105,C106		CEAS332M35				
	C303		CEAS471M6				
	C107		CEAS4R7M50				
	C360		CEASR47M50				
	C311		CEHAQ101M50				
	C201,C202		CEYA4R7M50				
	C305-C308		CFTXA823J50				
	C217,C218		CKCYB102K50				
	C209,C210		CKCYB681K50				
	C203,C204		CQMA102J50				
	C111		CQMXA473J100				
<b>RESISTORS</b>							
	R245,R246 (0.33/5W)		ACN1087				
	R315,R316		RD1/2PM100J				
	R215,R216		RD1/4PM102J				
	R320		RD1/4PM103J				
	R225,R226		RD1/4PM471J				
	R217,R218		RD1/4PM623J				
	R233-R236		RD1/4PMFL101J				
	R209,R210,R213,R214		RFA1/4PS391J				
	R227-R232		RFA1/4PS470J				
	R239-R242		RFA1/4PS4R7J				
	R1007		RN1/4PC1001F				
	R1013		RN1/4PC1202F				
	R1012		RN1/4PC3301F				
	R1011		RN1/4PC5101F				
	R342		RS2LMF332J				
	R337		RS2LMF391J				
	R341		RS2LMF560J				
	Other Resistors		RD1/8PM□□□J				
<b>OTHERS</b>							
	CN201	CONNECTOR(15P) SCREW	KPE15 BBZ30P080FZK				

## 5. FOR M – J410/HE, HEWZIW, M – J310/HB, HE, HEWZIW, SD AND SL

### NOTES:

- Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by “ $\odot$ ” are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

### 5.1 CONTRAST OF MISCELLANEOUS PARTS FOR M – J410/HE AND HEWZIW

M – J410HE, HEWZIW and HB have the same construction except for the following :

Mark	Symbol & Description	Part No.			Remarks
		HB type	HE type	HEWZIW type	
$\odot$	H.P assembly	AWZ4413	AWZ4413	AWZ4985	
$\odot$	P.A assembly	AWZ4751	AWZ4400	AWZ4402	
$\odot$	MAIN SP assembly	AWZ4987	AWZ4570	AWZ4571	
$\odot$	REAR SP assembly	AWZ4403	AWZ4403	AWZ4423	
$\odot$	TRANS assembly	AWZ4410	AWZ4410	AWZ4401	
$\Delta$	AC power cord	ADG1067	ADG1068	ADG1068	
	FM antenna	ADH1005	ADH1005	ADH1002	
NSP	Rear panel(MTL)	ANC1952	ANC1953	ANC1954	
NSP	Heat Sink	ANH1401	ANH1324	ANH1324	
	Fan motor	AXM1013	.....	.....	
	Screw	PPZ50P100FZK	.....	.....	
	Operating instructions (English, French)	ARE1258	ARE1258	.....	
	Operating instructions (German, Italian)	.....	ARC1385	ARC1385	
	Operating instructions (Dutch, Swedish, Spanish, Portuguese)	.....	ARC1387	.....	

### H.P ASSEMBLY

AWZ4985 and AWZ4413 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ4413	AWZ4985	
	C401, C402	.....	CKDYB102K50	

**P.A ASSEMBLY****AWZ4400, AWZ4402 and AWZ4751 have the same construction except for the following :**

Mark	Symbol & Description	Part No.			Remarks
		AWZ4751	AWZ4400	AWZ4402	
	IC101	NJM7812FAS	.....	.....	
	IC1001	M5223L	.....	.....	
	Q1001	XDC143ES	.....	.....	
	Q1002	2SC2458	.....	.....	
	Q1101	.....	2SC2458	2SC2458	
	Q1102	.....	2SC1845	2SC1845	
	D1004, D1005	HSS104-02	.....	.....	
	D1006	RD5.1ESB	.....	.....	
	D1101	.....	HZ18EB	HZ18EB	
	D1102, D1103	.....	HSS104-02	HSS104-02	
	RY1101	.....	ASR1035	ASR1035	
	C107	CEAS4R7M50	.....	.....	
	C109	CEAS010M50	.....	.....	
	C203, C204	CQMA102J50	CQMA102J50	.....	
	C205, C207	CCPUSL470J50	CCPUSL470J50	CCDSL151J50	
	C206, C208	CCCSL470J50	CCCSL470J50	CCDSL151J50	
	C211, C212	CCCSL040C500	CCCSL040C500	CCCSL100D500	
	C253	.....	.....	CKDYX104M25	
	C254	.....	.....	CKDYB102K50	
	C255	.....	.....	CKDYB103K50	
	R253	.....	.....	RD1/8PM100J	
	R1007	RN1/4PC1001F	.....	.....	
	R1008	RD1/8PM221J	.....	.....	
	R1009	RD1/8PM224J	.....	.....	
	R1010	RD1/8PM562J	.....	.....	
	R1011	RN1/4PC5101F	.....	.....	
	R1012	RN1/4PC3301F	.....	.....	
	R1013	RN1/4PC1202F	.....	.....	
	R1014	RD1/8PM222J	.....	.....	
	R1015	RD1/8PM182J	.....	.....	
	R1101	.....	RD1/8PM102J	RD1/8PM102J	
	R1102	.....	RD1/8PM563J	RD1/8PM563J	
	R1103, R1104	.....	RD1/8PM103J	RD1/8PM103J	

**MAIN SP ASSEMBLY****AWZ4570, AWZ4571 and AWZ4987 have the same construction except for the following :**

Mark	Symbol & Description	Part No.			Remarks
		AWZ4987	AWZ4570	AWZ4571	
	C451-C454	.....	.....	CQMXA103J100	
	C455-C458	.....	.....	CCDSL680J50	
	L451-L454	ATH1004	ATH1004	ATH1009	
	R451-R454	RD1/4PMFL100J	RD1/4PMFL100J	RD1/4PMFL101J	
	R455-R458	.....	.....	RD1/8PM100J	
	TH1001	NTH2218F	.....	.....	

**REAR SP ASSEMBLY**

**AWZ4423 and AWZ4403 have the same construction except for the following :**

Mark	Symbol & Description	Part No.		Remarks
		AWZ4403	AWZ4423	
	L901, L902 C901, C902 R901, R902	..... ..... .....	ATH1009 CKDYB102K50 RD1/4PMFL101J	

**TRANS ASSEMBLY**

**Although AWZ4401 and AWZ4410 are different in part number, they have the same service parts.**

**5.2 CONTRAST OF MISCELLANEOUS PARTS FOR M-J310/HB, HE, HEWZIW, SD AND SL**

**M-J310/HB, HE, HEWZIW, SD, SL and M-J410/HB have the same construction except for the following :**

Mark	Symbol & Description	Part No.						Remarks
		M-J410 /HB	M-J310 /HB	M-J310 /HE	M-J310 /HEWZIW	M-J310 /SD	M-J310 /SL	
●	PRIMARY assembly	AWZ4415	AWZ4415	AWZ4415	AWZ4415	AWZ4416	AWZ4416	Refer to 5.1 Refer to 5.1
●	P.A assembly	AWZ4751	AWZ4405	AWZ4404	AWZ4406	AWZ4404	AWZ4404	
●	H.P assembly	AWZ4413	AWZ4412	AWZ4412	AWZ4984	AWZ4412	AWZ4412	
●	MAIN SP assembly	AWZ4987	AWZ4569	AWZ4569	AWZ4572	AWZ4569	AWZ4569	
●	REAR SP assembly	AWZ4403	AWZ4403	AWZ4403	AWZ4423	AWZ4403	AWZ4403	
●	TRANS assembly	AWZ4410	AWZ4410	AWZ4410	AWZ4401	AWZ4410	AWZ4410	
	Q1, Q2 Transistor	MSC3281	2SC3180N	2SC3180N	2SC3180N	2SC3180N	2SC3180N	Refer to 5.1 Refer to 5.1
	Q3, Q4 Transistor	MSA1302	2SA1263N	2SA1263N	2SA1263N	2SA1263N	2SA1263N	
△	AC power cord	ADG1067	ADG1067	ADG1068	ADG1068	ADG1133	ADG1068	
△	FU1 Fuse (T2.5A/250V)	AEK-512	.....	.....	.....	.....	.....	
△	FU1 Fuse (T1.6A/250V)	.....	AEK-510	AEK-510	AEK-510	AEK-510	AEK-510	
△	FU2 Fuse (T1.6A/250V)	.....	.....	.....	.....	AEK-510	AEK-510	
△	Voltage selector	.....	.....	.....	.....	AKX-507	AKX-507	Refer to 5.1 Refer to 5.1
△	T1 Power transformer	ATS1460	ATS1463	ATS1463	ATS1463	ATS1464	ATS1464	
NSP	SP change SW	AAD2339	.....	.....	.....	.....	.....	
NSP	SUB panel (PLS)	AAP1325	AAP1324	AAP1324	AAP1324	AAP1324	AAP1324	
NSP	Front panel (PLS)	AMB2047	AMB2046	AMB2046	AMB2046	AMB2046	AMB2046	
NSP	Rear panel(MTL)	ANC1952	ANC1948	ANC1949	ANC1950	ANC1951	ANC2056	
NSP	Reinforced plate	ANG1635	.....	.....	.....	.....	.....	

Mark	Symbol & Description	Part No.						Remarks
		M-J410 /HB	M-J310 /HB	M-J310 /HE	M-J310 /HEWZIW	M-J310 /SD	M-J310 /SL	
NSP	Heat Sink	ANH1401	ANH1423	ANH1423	ANH1423	ANH1423	ANH1423	
	Fan motor	AXM1013	.....	.....	.....	.....	.....	
	Screw	PPZ50P100FZK	.....	.....	.....	.....	.....	
	FM antenna	ADH1005	ADH1005	ADH1005	ADH1002	ADH1005	ADH1005	
	Packing case	AHD2488	AHD2486	AHD2486	AHD2486	AHD2487	AHD2524	
	Remote control unit (CU-MJ005)	AXD1332	.....	.....	.....	AXD1332	AXD1332	
	Remote control unit (CU-MJ004)	.....	AXD1331	AXD1331	AXD1331	.....	.....	
	Battery cover	AZN2234	AZN2234	AZN2234	AZN2234	AZN2237	AZN2234	
	Operating instructions (English, French)	ARE1258	ARE1258	ARE1258	.....	ARE1258	ARE1258	
	Operating instructions (German, Italian)	.....	.....	ARC1385	ARC1385	.....	.....	
	Operating instructions (Dutch, Swedish, Spanish, Portuguese)	.....	.....	ARC1387	.....	.....	.....	

### PRIMARY ASSEMBLY

Although AWZ4416 and AWZ4415 are different in part number, they have the same service parts.

### H.P ASSEMBLY

AWZ4412, AWZ4984 and AWZ4413 have the same construction except for the following :

Mark	Symbol & Description	Part No.			Remarks
		AWZ4413	AWZ4412	AWZ4984	
	S401(Speaker A,B ON/OFF SW) C401, C402	ASG1049 .....	..... .....	..... CKDYB102K50	

### MAIN SP ASSEMBLY

AWZ4569, AWZ4572 and AWZ4987 have the same construction except for the following :

Mark	Symbol & Description	Part No.			Remarks
		AWZ4987	AWZ4569	AWZ4572	
	C451, C452	.....	.....	CQMXA103J100	
	C455-C458	.....	.....	CCDSL680J50	
	L451, L452	ATH1004	ATH1004	ATH1009	
	L453, L454	ATH1004	.....	.....	
	R451, R452	RD1/4PMFL100J	RD1/4PMFL100J	RD1/4PMFL101J	
	R453, R454	RD1/4PMFL100J	.....	.....	
	R455-R458	.....	.....	RD1/8PM100J	
	TH1001	NTH2218F	.....	.....	
	Speaker terminal	AKE-111	AKE-109	AKE-109	

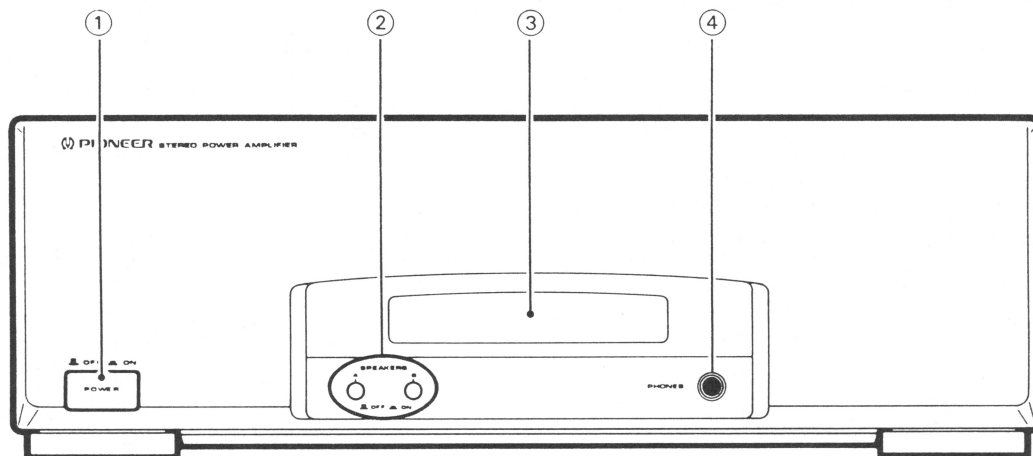
## P.A ASSEMBLY

AWZ4405, AWZ4404, AWZ4406 and AWZ4751 have the same construction except for the following :

Mark	Symbol & Description	Part No.				Remarks
		AWZ4751	AWZ4405	AWZ4404	AWZ4406	
	IC101	NJM7812FAS	.....	.....	.....	
	IC1001	M5223L	.....	.....	.....	
	Q1001	XDC143ES	.....	.....	.....	
	Q1002	2SC2458	.....	.....	.....	
	Q1101	.....	.....	2SC2458	2SC2458	
	Q1102	.....	.....	2SC1845	2SC1845	
	D101	D5SB20F	D3SBA20(A)	D3SBA20(A)	D3SBA20(A)	
	D1004, D1005	HSS104-02	.....	.....	.....	
	D1006	RD5.1ESB	.....	.....	.....	
	D1101	.....	.....	HZ18EB	HZ18EB	
	D1102, D1103	.....	.....	HSS104-02	HSS104-02	
	RY1101	.....	.....	ASR1035	ASR1035	
	C101, C102 (6800 $\mu$ /63V)	ACH1137	.....	.....	.....	
	C101, C102 (3300 $\mu$ /50V)	.....	ACH1017	ACH1017	ACH1017	
	C107	CEAS4R7M50	.....	.....	.....	
	C109	CEAS010M50	.....	.....	.....	
	C203, C204	CQMA102J50	CQMA102J50	CQMA102J50	.....	
	C205, C207	CCPUSL470J50	CCPUSL470J50	CCPUSL470J50	CCDSL151J50	
	C206, C208	CCCSL470J50	CCCSL470J50	CCCSL470J50	CCDSL151J50	
	C211, C212	CCCSL040C500	CCCSL040C500	CCCSL040C500	CCCSL100D500	
	C253	.....	.....	.....	CKDYX104M25	
	C254	.....	.....	.....	CKDYB102K50	
	C255	.....	.....	.....	CKDYB103K50	
	R233	RD1/4PMFL101J	RFA1/4PL101J	RFA1/4PL101J	RFA1/4PL101J	
	R253	.....	.....	.....	RD1/8PM100J	
	R1007	RN1/4PC1001F	.....	.....	.....	
	R1008	RD1/8PM221J	.....	.....	.....	
	R1009	RD1/8PM224J	.....	.....	.....	
	R1010	RD1/8PM562J	.....	.....	.....	
	R1011	RN1/4PC5101F	.....	.....	.....	
	R1012	RN1/4PC3301F	.....	.....	.....	
	R1013	RN1/4PC1202F	.....	.....	.....	
	R1014	RD1/8PM222J	.....	.....	.....	
	R1015	RD1/8PM182J	.....	.....	.....	
	R1101	.....	.....	RD1/8PM102J	RD1/8PM102J	
	R1102	.....	.....	RD1/8PM563J	RD1/8PM563J	
	R1103, R1104	.....	.....	RD1/8PM103J	RD1/8PM103J	

## 6. PANEL FACILITIES

### FRONT PANEL FACILITIES



\* Illustration shows model M-J510.

#### STEREO POWER AMPLIFIER M-J310/M-J410/ M-J510

##### ① POWER ON/OFF switch

This is the switch for electric power.  
When the power is ON, the power indicator ③ lights.

Leave this power switch ON. To turn the system on and off, use tuner control amplifier's power switch.

##### ② SPEAKERS buttons (M-J410, M-J510 only)

Speakers connected to the rear panel SPEAKERS A, B terminals can be switched ON/OFF independently.

##### NOTE:

When the speaker system is connected to only one speaker terminal (A or B) and both A and B buttons are ON, there will be no sound. Turn ON only the selector to which the speaker system is connected.

##### ③ Power indicator

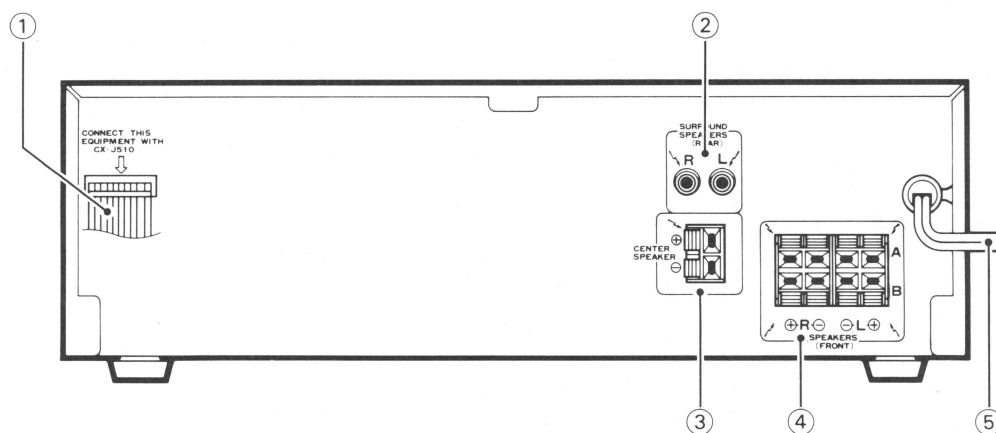
##### ④ PHONES jack

For stereo headphones.

##### NOTE:

There is no output from the speakers when headphones are plugged into PHONES jack.

### REAR PANEL FACILITIES



## STEREO POWER AMPLIFIER M-J310/M-J410/M-J510

\* Illustration shows model M-J510.

### ① Tuner control amplifier system cable

Connect to the POWER AMP jack of the tuner control amplifier.

### ② SURROUND SPEAKERS jacks

Connect to the Surround speaker systems.

#### NOTE:

Connect a speaker system having a nominal impedance of 16  $\Omega$  or more.

### ③ CENTER SPEAKER terminal (M-J510, M-J410 Multivoltage model only)

Connect to the center speaker.

#### NOTE:

Connect a speaker system having a nominal impedance ranging from 8  $\Omega$  to 16  $\Omega$  or more.

### ④ SPEAKERS terminals

A: Connect to a first set of speakers.

B: Connect to a second set of speakers. With M-J410 and M-J510 UK/European models multi-room (subroom) speakers can be connected. The M-J310 features only one set of speaker terminals.

#### NOTE:

Connect a speaker system having a nominal impedance ranging from 8  $\Omega$  to 16  $\Omega$ .

### ⑤ Power cord

Connect to the tuner control amplifier's AC OUTLETS.

## 7. SPECIFICATIONS

### STEREO POWER AMPLIFIER M-J310/M-J410/M-J510

#### [M-J310]

Continuous Power Output (DIN)

U.K., European models... 40 W + 40 W (1 kHz, T.H.D 1 %, 8  $\Omega$ )

Continuous Power Output (RMS)

Multivoltage model..... 50 W + 50 W (1 kHz, T.H.D 5 %, 8  $\Omega$ )

Total Harmonic Distortion (1 kHz, 20 W, 8  $\Omega$ ) ..... 0.1 % \*

#### [M-J410]

Continuous Power Output (DIN)

U.K., European models... 80 W + 80 W (1 kHz, T.H.D 1 %, 8  $\Omega$ )

Continuous Power Output (RMS)

Multivoltage model

Front..... 70 W + 70 W (1 kHz, T.H.D 5 %, 8  $\Omega$ )

Rear ..... 16 W (1 kHz, T.H.D 5 %, 8  $\Omega$ )

Center ..... 16 W (1 kHz, T.H.D 5 %, 8  $\Omega$ )

Total Harmonic Distortion

U.K., European models (1 kHz, 40 W, 8  $\Omega$ )..... 0.1 % \*\*

Multivoltage model (1 kHz, 35 W, 8  $\Omega$ )..... 0.1 % \*\*

#### [M-J510]

Continuous Power Output (DIN)

U.K., European models

Front..... 80 W + 80 W (1 kHz, T.H.D 1 %, 8  $\Omega$ )

Rear ..... 14 W (1 kHz, T.H.D 1 %, 8  $\Omega$ )

Center ..... 14 W (1 kHz, T.H.D 1 %, 8  $\Omega$ )

Continuous Power Output (RMS)

Multivoltage model

Front..... 90 W + 90 W (1 kHz, T.H.D 5 %, 8  $\Omega$ )

Rear ..... 16 W (1 kHz, T.H.D 5 %, 8  $\Omega$ )

Center ..... 16 W (1 kHz, T.H.D 5 %, 8  $\Omega$ )

Total Harmonic Distortion (1 kHz, 40 W, 8  $\Omega$ ) ..... 0.1 % \*\*

#### Power Supply/Miscellaneous

Power requirements

U.K. model ..... a.c. 240 Volts ~, 50/60 Hz

European model ..... a.c. 220 — 230 Volts ~, 50/60 Hz

Multivoltage model ..... AC 110 V/120 — 127 V/220 V/240 V (switchable), 50/60 Hz

Power consumption

M-J310..... 180 W

M-J410

U.K., European models ..... 300 W

Multivoltage model ..... 320 W

M-J510..... 380 W

Dimensions

M-J310 ..... 360 (W) x 340 (D) x 121 (H) mm

M-J410, M-J510 ..... 360 (W) x 341 (D) x 121 (H) mm

Weight

M-J310 ..... 6.3 kg

M-J410 ..... 7.4 kg

M-J510 ..... 7.7 kg

#### Accessories

Operating instructions ..... 1

Remote control unit ..... 1

Dry cell batteries "AAA" (IEC R03/UM-4) ..... 2

FM T-type Antenna ..... 1

AM Loop Antenna ..... 1

\*\* Measured By Audio Spectrum Analyzer.

